K-5 MATHEMATICS PROCESS STANDARDS

Content Area	Number	Content Area Topic
Mathematics	1	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” and "Is my answer reasonable?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. Mathematically proficient students understand how mathematical ideas interconnect and build on one another to produce a coherent whole.
Mathematics	2	Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
Mathematics	3	Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They organize their mathematical thinking, justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. They justify whether a given statement is true always, sometimes, or never. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies and use various methods of proof. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Mathematics	4	Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace using a variety of appropriate strategies. They create and use a variety of representations to solve problems and to organize and communicate mathematical ideas. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
Mathematics	5	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. Regarding technology, students use it strategically as a tool to support the development of learning mathematics. They use technology to contribute to concept development, simulation, representation, reasoning, communication, and problem solving. Note: Elementary students must learn how to fluently perform the basic arithmetic operations independent of the use of a calculator.
Mathematics	6	Attend to precision. Mathematically proficient students try to communicate precisely to others. They try to use clear definitions including correct mathematical language in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They express solutions clearly and logically by using the appropriate mathematical terms and notation. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently and check the validity of their results in the context of the problem. They express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Mathematics	7	Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression x^2 + 9x + 14, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see 5 – 3(x – y)^2 as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
Mathematics	8	Look for and express regularity in repeated reasoning. Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation (y – 2)/(x – 1) = 3. Noticing the regularity in the way terms cancel when expanding (x – 1)(x + 1), (x – 1)(x^2 + x + 1), and (x – 1)(x^3 + x^2 + x + 1) might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

MATHEMATICS: KINDERGARTEN

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	K	Number Sense	1	Count to 100 by ones and by tens and count on by one from any given number.
Mathematics	K	Number Sense	2	Write numbers from 0 to 20 and recognize number words from 0 to 10. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
Mathematics	K	Number Sense	3	Find the number that is one more than or one less than any whole number up to 20.
Mathematics	K	Number Sense	4	When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
Mathematics	K	Number Sense	5	Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.
Mathematics	K	Number Sense	6	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
Mathematics	K	Number Sense	7	Compare two numbers between 1 and 20 presented as written numerals.
Mathematics	K	Number Sense	8	Use correctly the words for comparison: one and many; none, some and all; more and less; most and least; and equal to, more than and less than.
Mathematics	K	Number Sense	9	Separate sets of ten or fewer objects into equal groups.
Mathematics	K	Number Sense	10	Develop initial understandings of place value and the base 10 number system by showing equivalent forms of whole numbers from 10 to 20 as groups of tens and ones using objects and diagrams.
Mathematics	K	Computation and Algebraic Thinking	1	Add and subtract within 10, e.g., by using objects or drawings to represent the problem.
Mathematics	K	Computation and Algebraic Thinking	2	Solve contextual word problems that involve addition and subtraction within 10, e.g., by using objects or drawings to represent the problem.
Mathematics	K	Computation and Algebraic Thinking	3	Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). *[In Kindergarten, students should see equations and be encouraged to write them, however, writing equations is not required.]*
Mathematics	K	Computation and Algebraic Thinking	4	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	K	Computation and Algebraic Thinking	5	Compose and decompose numbers from 11 to 19 into a group of ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
Mathematics	K	Computation and Algebraic Thinking	6	Create, extend, and give the rule for simple patterns with numbers and shapes.
Mathematics	K	Geometry	1	Identify the positions of objects and geometric shapes in space and use the terms inside, outside, between, above, below, near, far, under, over, up, down, behind, in front of, next to, to the left of and to the right of.
Mathematics	K	Geometry	2	Compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).
Mathematics	K	Geometry	3	Model shapes in the world by composing shapes from objects (e.g., sticks and clay balls) and drawing shapes.
Mathematics	K	Geometry	4	Compose simple geometric shapes to form larger shapes. For example, create a rectangle composed of two triangles.
Mathematics	K	Measurement	1	Make direct comparisons of the length, capacity, weight, and temperature of objects and recognize which object is shorter, longer, taller, lighter, heavier, warmer, cooler, or holds more.
Mathematics	K	Measurement	2	Understand concepts of time: morning, afternoon, evening, today, yesterday, tomorrow, day, week, month, and year. Understand that clocks and calendars are tools that measure time.
Mathematics	K	Data Analysis	1	Identify, sort, and classify objects by size, number, and other attributes. Identify objects that do not belong to a particular group and explain the reasoning used.

MATHEMATICS: FIRST GRADE

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	1	Number Sense	1	Count to 120 by ones, fives and tens, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
Mathematics	1	Number Sense	2	Understand that 10 can be thought of as a group of ten ones — called a “ten"; that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones; and that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
Mathematics	1	Number Sense	3	Show equivalent forms of whole numbers as groups of tens and ones and understand that the individual digits of a two-digit number represent amounts of tens and ones.
Mathematics	1	Number Sense	4	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
Mathematics	1	Number Sense	5	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
Mathematics	1	Number Sense	6	Match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.
Mathematics	1	Computation and Algebraic Thinking	1	Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). Understand the role of 0 in addition and subtraction.
Mathematics	1	Computation and Algebraic Thinking	2	Solve contextual word problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all parts of the addition or subtraction problem, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Mathematics	1	Computation and Algebraic Thinking	3	Create a contextual word problem to represent a given equation involving addition and subtraction within 20.
Mathematics	1	Computation and Algebraic Thinking	4	Solve contextual word problems that call for addition of three whole numbers whose sum is within 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Mathematics	1	Computation and Algebraic Thinking	5	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2

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Mathematics	1	Computation and Algebraic Thinking	6	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
Mathematics	1	Computation and Algebraic Thinking	7	Create, extend, and give the rule for number patterns using addition (patterns should not go beyond 100).
Mathematics	1	Geometry	1	Identify objects as two-dimensional or three-dimensional. Identify two-dimensional shapes as the faces of three-dimenstional objects.
Mathematics	1	Geometry	2	Classify and sort two-dimensional and three-dimensional objects by position, shape, size, roundness, and other attributes.
Mathematics	1	Geometry	3	Distinguish between defining attributes of two- and three-dimensional shapes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); create and draw two-dimensional shapes to possess defining attributes.
Mathematics	1	Geometry	4	Use two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. *[Students do not need to learn formal names such as "right rectangular prism."]*
Mathematics	1	Geometry	5	Partition circles and rectangles into two and four equal parts, describe the parts using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the parts. Understand for these examples that decomposing into more equal parts creates smaller parts.
Mathematics	1	Measurement	1	Compare and order objects according to length, area, capacity, weight, and temperature, using direct comparison or a nonstandard unit.
Mathematics	1	Measurement	2	Tell and write time to the nearest half-hour and relate time to events (before/after, shorter/longer) using analog clocks.
Mathematics	1	Measurement	3	Identify and give the values of collections of pennies, nickels, and dimes.
Mathematics	1	Data Analysis	1	Organize and interpret data with up to three choices (What is your favorite fruit? apples, bannanas, oranges); ask and answer questions about the total number of data points, how many in each choice, and how many more or less in one choice compared to another.

MATHEMATICS: SECOND GRADE

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	2	Number Sense	1	Count, read, write, compare and plot whole numbers up to 1,000 on a number line.
Mathematics	2	Number Sense	2	Count by ones, twos, fives, tens and hundreds up to 1,000.
Mathematics	2	Number Sense	3	Match the ordinal numbers first, second, third, etc. with an ordered set up to 30 items.
Mathematics	2	Number Sense	4	Use words, models, standard form and expanded form to represent place value and to show equivalent forms of whole numbers up to 1,000 as groups of hundreds, tens and ones.
Mathematics	2	Number Sense	5	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by placing that number of objects in two groups of the same size and recognizing that for even numbers no object will be left over and for odd numbers one object will be left over, or by pairing objects or counting them by 2s. Write an equation to express an even number as a sum of two equal addends.
Mathematics	2	Number Sense	6	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand that 100 can be thought of as a group of ten tens — called a “hundred. Understand that the numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
Mathematics	2	Number Sense	7	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
Mathematics	2	Computation and Algebraic Thinking	1	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Use mental arithmetic to add or subtract 0, 1, 2, 3, 4, 5, or 10 with numbers less than 100. Use mental arithmetic to add 10 or 100 to a given number 100–900 and subtract 10 or 100 from a given number 100–900.
Mathematics	2	Computation and Algebraic Thinking	2	Solve contextual word problems involving addition and subtraction within 100 in situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all parts of the addition or subtraction problem, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. Use estimation to decide whether answers are reasonable in addition problems.
Mathematics	2	Computation and Algebraic Thinking	3	Solve contextual word problems involving addition and subtraction within 100 in situations involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
Mathematics	2	Computation and Algebraic Thinking	4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal groups.

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Mathematics	2	Computation and Algebraic Thinking	5	Add and subtract within 1000, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
Mathematics	2	Computation and Algebraic Thinking	6	Show that the order in which two numbers are added (commutative property) and how the numbers are grouped in addition (associative property) will not change the sum. These properties can be used to show that numbers can be added in any order.
Mathematics	2	Computation and Algebraic Thinking	7	Create, extend, and give a rule for number patterns using addition and subtraction (patterns should not go beyond 1000).
Mathematics	2	Geometry	1	Create squares, rectangles, triangles, cubes, and right rectangular prisms using appropriate materials.
Mathematics	2	Geometry	2	Identify, describe, and classify two- and three-dimensional shapes (triangle, square, rectangle, cube, right rectangular prism) according to the number and shape of faces and the number of sides and/or vertices. Draw two-dimensional shapes.
Mathematics	2	Geometry	3	Investigate and predict the result of composing and decomposing two- and three-dimensional shapes.
Mathematics	2	Geometry	4	Partition a rectangle into rows and columns of same-size (unit) squares and count to find the total number of same-size squares.
Mathematics	2	Geometry	5	Partition circles and rectangles into two, three, or four equal parts, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal parts of identical wholes need not have the same shape.
Mathematics	2	Measurement	1	Describe the relationship among inch, foot, and yard. Describe the relationship between centimeter and meter.
Mathematics	2	Measurement	2	Estimate and measure capacity using cups and pints.
Mathematics	2	Measurement	3	Tell and write time to the nearest five minutes from analog clocks , using a.m. and p.m. Solve contextual word problems involving addition and subtraction of time intervals on the hour or half hour.
Mathematics	2	Measurement	4	Describe relationships of time: seconds in a minute; minutes in an hour; hours in a day; days in a week; and days, weeks, and months in a year.
Mathematics	2	Measurement	5	Find the value of a collection of pennies, nickels, dimes, quarters and dollars.
Mathematics	2	Measurement	6	Estimate and measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes to the nearest inch, foot, yard, centimeter and meter.

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	2	Measurement	7	Measure the length of an object twice using length units of different lengths for the two measurements; understand that the length of the object does not change regardless of the units used and describe how the two measurements relate to the size of the unit chosen.
Mathematics	2	Data Analysis	1	Draw a picture graph (with single-unit scale) and a bar graph (with single-unit scale) to represent a data set with up to four choices (What is your favorite color? red, blue, yellow, green). Solve simple put-together, take-apart, and compare problems using information presented in the graphs.
Mathematics	2	Data Analysis	2	Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them. Make and evaluate predictions and inferences about the data.

MATHEMATICS: THIRD GRADE

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	3	Number Sense	1	Count, read, write, compare and plot whole numbers up to 10,000 on a number line.
Mathematics	3	Number Sense	2	Use words, models, standard form and expanded form to represent place value and to show equivalent forms of whole numbers up to 10,000.
Mathematics	3	Number Sense	3	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. *[In grade 3, limit denominators of fractions to 2, 3, 4, 6, 8.]*
Mathematics	3	Number Sense	4	Represent a fraction 1/b on a number line by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.
Mathematics	3	Number Sense	5	Represent a fraction a/b on a number line by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
Mathematics	3	Number Sense	6	Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
Mathematics	3	Number Sense	7	Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
Mathematics	3	Number Sense	8	Compare two fractions with the same numerator or the same denominator by reasoning about their size based on the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
Mathematics	3	Number Sense	9	Use place value understanding to round 2 and 3-digit whole numbers to the nearest 10 or 100.
Mathematics	3	Computation	1	Fluently add and subtract whole numbers within 1000.
Mathematics	3	Computation	2	Represent the concept of multiplication of whole numbers with the following models: repeated addition, equal-sized groups, arrays, area models and equal "jumps" on a number line. Understand the properties of 0 and 1 in multiplication.
Mathematics	3	Computation	3	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.
Mathematics	3	Computation	4	Represent the concept of division of whole numbers with models as successive subtraction, partitioning, sharing and an inverse of multiplication. Understand the properties of 0 and 1 in division.
Mathematics	3	Computation	5	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.
Mathematics	3	Computation	6	Multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations.

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	3	Computation	7	Fluently multiply two one-digit numbers.
Mathematics	3	Algebraic Thinking	1	Solve contextual word problems involving whole number multiplication and division within 100 in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
Mathematics	3	Algebraic Thinking	2	Determine the unknown whole number in a multiplication or division equation relating three whole numbers
Mathematics	3	Algebraic Thinking	3	Solve contextual word problems involving addition and subtraction of whole numbers within 1000, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
Mathematics	3	Algebraic Thinking	4	Solve two-step contextual word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
Mathematics	3	Algebraic Thinking	5	Create, extend, and give a rule for number patterns by using multiplication (patterns should not go beyond 1000).
Mathematics	3	Geometry	1	Identify, describe, and classify: cube, sphere, prism, pyramid, cone, and cylinder.
Mathematics	3	Geometry	2	Identify, describe and draw points, lines and line segments using appropriate tools (e.g., ruler and technology), and use these terms when describing two-dimensional shapes.
Mathematics	3	Geometry	3	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
Mathematics	3	Geometry	4	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole (1/2, 1/3, 1/4, 1/6, 1/8).
Mathematics	3	Measurement	1	Find the value of any collection of coins and bills. Write amounts less than a dollar using the ¢ symbol and write larger amounts in decimal notation using the $ symbol. Use play or real money to decide whether there is enough money to make a purchase.
Mathematics	3	Measurement	2	Choose and use appropriate units and tools to estimate and measure length, weight, and temperature. Estimate and measure length to a quarter-inch, weight in pounds, and temperature in degrees Celsius and Fahrenheit.
Mathematics	3	Measurement	3	Tell and write time using an analog clock to the nearest minute and measure time intervals in minutes. Solve contextual word problems involving addition and subtraction of time intervals in minutes.

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	3	Measurement	4	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), quarts (qt), gallons (gal), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.
Mathematics	3	Measurement	5	Find the area of a rectangle with whole-number side lengths by tiling it with unit squares, and show that the area is the same as would be found by multiplying the side lengths.
Mathematics	3	Measurement	6	Multiply side lengths to find areas of rectangles with whole-number side lengths to solve contextual word and math problems, and represent whole-number products as rectangular areas in mathematical reasoning.
Mathematics	3	Measurement	7	Solve contextual word problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
Mathematics	3	Data Analysis	1	Create scaled picture graphs, scaled bar graphs, and frequency tables to represent a data set (including data collected through observations, surveys, and experiments) with several categories. Solve one- and two-step “how many more” and “how many less” problems regarding the data and make predictions based on the data.
Mathematics	3	Data Analysis	2	Generate measurement data by measuring lengths with rulers to the nearest quarter of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.
Mathematics	3	Data Analysis	3	Interpret data displayed in a circle graph.

MATHEMATICS: FOURTH GRADE

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	4	Number Sense	1	Read and write multi-digit whole numbers up to 1,000,000 using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
Mathematics	4	Number Sense	2	Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers, using objects or pictures. Name and write mixed numbers as improper fractions, using objects or pictures.
Mathematics	4	Number Sense	3	Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. *[In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.]*
Mathematics	4	Number Sense	4	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model
Mathematics	4	Number Sense	5	Use words, models, standard form and expanded form to represent place value of decimal numbers to hundredths.
Mathematics	4	Number Sense	6	Write tenths and hundredths in decimal and fraction notations. Know the fraction and decimal equivalents for halves and fourths (e.g., 1/2 = 0.5 = 0.50, 7/4 = 1 3/4 = 1.75).
Mathematics	4	Number Sense	7	Compare two decimals to hundredths by reasoning about their size based on the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.
Mathematics	4	Number Sense	8	Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.
Mathematics	4	Number Sense	9	Use place value understanding to round multi-digit whole numbers to any given place value.
Mathematics	4	Computation	1	Show that the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can by multiplied in any order. Understand and use the distributive property.
Mathematics	4	Computation	2	Fluently add and subtract multi-digit whole numbers.

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	4	Computation	3	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Explain the calculation by using a valid mathematical method.
Mathematics	4	Computation	4	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Explain the calculation by using a valid mathematical method.
Mathematics	4	Computation	5	Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole.
Mathematics	4	Computation	6	Add and subtract mixed numbers with common denominators, e.g. by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
Mathematics	4	Algebraic Thinking	1	Solve contextual word problems involving addition and subtraction of multi-digit whole numbers, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
Mathematics	4	Algebraic Thinking	2	Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve contextual word and math problems.
Mathematics	4	Algebraic Thinking	3	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
Mathematics	4	Algebraic Thinking	4	Solve contextual word problems with whole numbers involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. Division problems do not include quotients with remainders.
Mathematics	4	Algebraic Thinking	5	Solve contextual word problems involving addition and subtraction of fractions referring to the same whole and having common denominators, e.g., by using visual fraction models and equations to represent the problem.
Mathematics	4	Algebraic Thinking	6	Understand that an equation such as y = 3x + 5 is a rule for finding a second number when a first number is given. Generate a number pattern that follows a given rule.
Mathematics	4	Geometry	1	Identify, describe, classify, and draw rays, angles (right, acute, obtuse), and perpendicular and parallel lines using a ruler or straightedge. Identify these in two-dimensional figures.
Mathematics	4	Geometry	2	Identify, describe, classify, and draw parallelograms, rhombuses, and trapezoids using a ruler or straightedge.
Mathematics	4	Geometry	3	Classify triangles and quadrilaterals based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles (right, acute, obtuse). Recognize and identify right triangles.

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	4	Geometry	4	Recognize and draw lines of symmetry in two-dimensional figures. Identify figures that have lines of symmetry.
Mathematics	4	Measurement	1	Measure length to the nearest quarter-inch, eighth-inch, and millimeter.
Mathematics	4	Measurement	2	Understand volume as a way of measuring the capacity of shapes.
Mathematics	4	Measurement	3	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.
Mathematics	4	Measurement	4	Use the four operations to solve contextual word problems involving distances, intervals of time, liquid volumes, masses of objects, and money. Include problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
Mathematics	4	Measurement	5	Apply the area and perimeter formulas for rectangles to solve contextual word and math problems. Recognize area as additive and find the area of complex shapes composed of rectangles by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts; apply this technique to solve contextual word and math problems.
Mathematics	4	Measurement	6	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint. Understand an angle is measured with reference to a circle with its center at the common endpoint of the rays by considering the fraction of the circular arc between the points where the two rays intersect the circle.
Mathematics	4	Measurement	7	Understand an angle that turns through 1/360 of a circle is called a “one-degree angle,” and can be used to measure angles. An angle that turns through n one-degree angles is said to have an angle measure of n degrees. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
Mathematics	4	Data Analysis	1	Formulate questions that can be addressed with data and make predictions about the data. Use observations, surveys, and experiments to collect, represent, and interpret the data using tables (including frequency tables), line plots, bar graphs, and line graphs. Recognize the differences in representing categorical and numerical data.
Mathematics	4	Data Analysis	2	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using data displayed in line plots.

MATHEMATICS: FIFTH GRADE

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	5	Number Sense	1	Explain different interpretations of fractions: as parts of a whole, parts of a set, and division of whole numbers by whole numbers.
Mathematics	5	Number Sense	2	Compare and order fractions, mixed numbers, and decimals to thousandths by using >, =, and < symbols. Plot these numbers on a number line.
Mathematics	5	Number Sense	3	Identify and explain prime and composite numbers.
Mathematics	5	Number Sense	4	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
Mathematics	5	Number Sense	5	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
Mathematics	5	Number Sense	6	Use place value understanding to round decimals up to thousandths to any given place value.
Mathematics	5	Number Sense	7	Understand and interpret percents as a part of a hundred.
Mathematics	5	Computation	1	Evaluate expressions with parentheses or brackets involving whole numbers using the commutative, associative, and distributive properties.
Mathematics	5	Computation	2	Fluently multiply multi-digit whole numbers.
Mathematics	5	Computation	3	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Explain the calculation by using a valid mathematical method.
Mathematics	5	Computation	4	Add, subtract, multiply, and divide decimals to hundredths, using models or drawings and strategies based on place value or the properties of operations. Explain the calculation by using a valid mathematical method.
Mathematics	5	Computation	5	Add and subtract fractions with unlike denominators (including mixed numbers).
Mathematics	5	Computation	6	Multiply a fraction by a fraction or whole number. Use a visual fraction model to represent a fraction times a whole number.
Mathematics	5	Computation	7	Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
Mathematics	5	Computation	8	Explain why multiplying a number by a fraction greater than 1 results is a product greater than the given number. Explain why multiplying a number by a fraction less than 1 results in a product smaller than the given number. Relate the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	5	Computation	9	Divide a unit fraction by a non-zero whole number. Divide a whole number by a unit fraction. Use a visual fraction model to represent these calculations.
Mathematics	5	Algebraic Thinking	1	Write linear algebraic expressions in one or two variables and evaluate them for given values.
Mathematics	5	Algebraic Thinking	2	Solve contextual word problems involving multiplication and division of whole numbers, e.g. by using equations to represent the problem. In division problems that involve remainders, explain how the remainder affects the solution to the problem.
Mathematics	5	Algebraic Thinking	3	Solve contextual word problems involving addition, subtraction, mutliplication, and division with decimals to hundredths (including problems that involve money in decimal notation), e.g. by using equations to represent the problem.
Mathematics	5	Algebraic Thinking	4	Solve contextual word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.
Mathematics	5	Algebraic Thinking	5	Solve contextual word problems involving multiplication of fractions (including mixed numbers), e.g., by using visual fraction models or equations to represent the problem.
Mathematics	5	Algebraic Thinking	6	Solve contextual word problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.
Mathematics	5	Algebraic Thinking	7	Graph points with whole number coordinates on a coordinate plane. Explain how the coordinates relate the point as the distance from the origin on each axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
Mathematics	5	Algebraic Thinking	8	Represent contextual word and math problems by graphing points in the first quadrant of the coordinate plane and interpret coordinate values of points in the context of the situation.
Mathematics	5	Algebraic Thinking	9	Generate two numerical patterns using two given rules. Identify relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.
Mathematics	5	Geometry	1	Identify, describe, classify, and draw triangles (right, acute, obtuse) and circles using a ruler or straightedge and compass. Understand the relationship between radius and diameter.

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	5	Geometry	2	Identify and classify polygons including quadrilaterals, pentagons, hexagons and triangles (i.e., equilateral, isosceles, scalene, right, acute and obtuse triangles) based on angle measures and sides. Classify polygons in a hierarchy based on properties. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.
Mathematics	5	Measurement	1	Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
Mathematics	5	Measurement	2	Develop and use formulas for the area of triangles, parallelograms and trapezoids. Solve contextual word and math problems involving perimeter and area of these shapes using appropriate units for measures.
Mathematics	5	Measurement	3	Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step contextual word problems.
Mathematics	5	Measurement	4	Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Use the associative property of multiplication to represent volumes with whole number products.
Mathematics	5	Measurement	5	Apply the formulas V = l × w × h and V = b × h for right rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths to solve contextual word and math problems.
Mathematics	5	Measurement	6	Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve contextual word problems.

MATHEMATICS: SIXTH GRADE

Content Area	Grade Level/Span	Strand	Number	Content Area Topic
Mathematics	6	Number Sense	1	Understand that positive and negative numbers are used to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent and compare quantities in real-world contexts, explaining the meaning of 0 in each situation.
Mathematics	6	Number Sense	2	Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite.
Mathematics	6	Number Sense	3	Compare and order rational numbers and plot them on a number line. Write, interpret, and explain statements of order for rational numbers in real-world contexts.
Mathematics	6	Number Sense	4	Understand that the absolute value of a number is the distance from zero on a number line. Find the absolute value of real numbers and know that the distance between two numbers on the number line is the absolute value of their difference. Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.
Mathematics	6	Number Sense	5	Recognize commonly used fractions (halves, thirds, fourths, fifths, tenths) and their decimal and percent equivalents. Convert between any two representations (fractions, decimals, percents) of positive rational numbers without the use of a calculator.
Mathematics	6	Number Sense	6	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.
Mathematics	6	Number Sense	7	Interpret, model, and use ratios to show the relative sizes of two quantities. Use ratio language to describe a ratio relationship between two quantities. Use the notations: a/b, a to b, a:b.
Mathematics	6	Number Sense	8	Understand the concept of a unit rate and use rate language in the context of a ratio relationship.
Mathematics	6	Computation	1	Evaluate positive rational numbers with whole number exponents.
Mathematics	6	Computation	2	Compute quotients of fractions, and solve real-world problems involving division of fractions by fractions. Use a visual fraction model and/or equation to represent these calculations.
Mathematics	6	Computation	3	Apply the order of operations and the properties of real numbers (i.e., identity, inverse, commutative, associative and distributive properties) to evaluate numerical expressions with nonnegative rational numbers, including those that use grouping symbols like parentheses and involving whole number exponents. Justify each step in the process.
Mathematics	6	Computation	4	Solve one and two-step real-world problems involving addition, subtraction, multiplication and division of positive fractions and decimals.

Mathematics	6	Computation	5	Use ratio and rate reasoning to solve real-world and mathematical problems with nonnegative rational numbers, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. Some examples: unit pricing, constant speed, discounts, tax, gratuities, simple interest, conversions within and across measurement systems, and problems that involve finding the whole given a part and the percent.
Mathematics	6	Computation	6	Fluently divide multi-digit whole numbers.
Mathematics	6	Computation	7	Fluently compute with positive fractions and positive decimals.
Mathematics	6	Algebra and Functions	1	Evaluate expressions at specific values of their variables including expressions with whole-number exponents and those that arise from formulas used in real-world problems.
Mathematics	6	Algebra and Functions	2	Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions and to justify whether two linear expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).
Mathematics	6	Algebra and Functions	3	Define and use variables when writing expressions to represent real-world and mathematical problems.
Mathematics	6	Algebra and Functions	4	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
Mathematics	6	Algebra and Functions	5	Fluently solve equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers. Represent real world problems using equations of these forms and solve such problems.
Mathematics	6	Algebra and Functions	6	Write an inequality of the form $x > c$, $x \geq c$, $x < c$, or $x \leq c$ to represent a constraint or condition in a real-world or mathematical problem where c is a rational number. Recognize that inequalities of these forms have infinitely many solutions and represent solutions on number line diagrams.
Mathematics	6	Algebra and Functions	7	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. Graph points with rational number coordinates on a coordinate plane.
Mathematics	6	Algebra and Functions	8	Solve real-world and mathematical problems by graphing points with rational number coordinates on a coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
Mathematics	6	Algebra and Functions	9	Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane.
Mathematics	6	Algebra and Functions	10	Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.

Mathematics	6	Geometry and Measurement	1	Know that the sum of the interior angles of any triangle is 180º and that the sum of the interior angles of any quadrilateral is 360º. Use this information to solve real-world and mathematical problems.
Mathematics	6	Geometry and Measurement	2	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate; apply these techniques to solve real-world and mathematical problems.
Mathematics	6	Geometry and Measurement	3	Find the area of complex shapes composed of polygons by composing or decomposing into simple shapes; apply this technique to solve real-world and mathematical problems.
Mathematics	6	Geometry and Measurement	4	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths to solve real-world and mathematical problems.
Mathematics	6	Geometry and Measurement	5	Construct right rectangular prisms from nets and use the nets to compute the surface area of prisms; apply this technique to solve real-world and mathematical problems.
Mathematics	6	Data Analysis and Statistics	1	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for the variability in the answers. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center (median and/or mean), spread (range, interquartile range and/or mean absolute deviation), and overall shape.
Mathematics	6	Data Analysis and Statistics	2	Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots.
Mathematics	6	Data Analysis and Statistics	3	Formulate statistical questions, and collect, organize, display, and interpret the data using line plots, histograms, and box plots.
Mathematics	6	Data Analysis and Statistics	4	Summarize numerical data sets in relation to their context, such as by: report the number of observations; describe the nature of the attribute under investigation, including how it was measured and its units of measurement; determine quantitative measures of center (median and/or mean) and variability (range, interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered; and relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.